This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-60. (cancelled)

61. (currently amended) A kit for assaying for the presence of a mutation associated with Familial Dysautonomia in an individual comprising primers 18F (SEQ ID NO:82) and 23R (SEQ ID NO:84) that are capable of amplifying a region of IKBKAP of sufficient size to detect a FD1 mutation at position 34,201 of SEQ ID NO:1 or a FD2 mutation at position 33,714 of SEQ ID NO:1, wherein said region amplified comprises a FD1 mutation at position 34,201 of SEQ ID NO:1 or a FD2 mutation at position 33,714 of SEQ ID NO:1.

62-67. (cancelled)

68. (previously presented) The kit of claim 61, wherein the region amplified comprises position 2,397 of SEQ ID NO:2.

69-80. (cancelled)

81. (currently amended) An isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 34,201 of SEQ ID NO:1, or the complement thereof, said oligonucleotide probe being suitable for the detection of ~~the FD mutation~~ a FD1 mutation at position 34,201 of SEQ ID NO:1.

82. (previously presented) The oligonucleotide probe of claim 81 which is 16 nucleotides.

83 - 86. (canceled)

87. (currently amended) An isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 34,201 of SEQ ID NO:1, or the complement thereof, except that the nucleotide ~~corresponding to~~ which is at the same position as position 34,201 of SEQ ID NO:1 is a cytosine, or a guanine in said complement, said oligonucleotide probe being suitable for the detection of ~~the FD mutation~~ a FD1 mutation at position 34,201 of SEQ ID NO:1.

88. (previously presented) The oligonucleotide probe of claim 87 which is 16 nucleotides.

89. (currently amended) An isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 33,714 of SEQ ID NO:1, or the complement thereof, except that the nucleotide ~~corresponding to~~ which is at the same position as position 33,714 of SEQ ID NO:1 is a cytosine, or a guanine in said complement, said oligonucleotide probe being suitable for the detection of ~~the FD mutation~~ a FD2 mutation at position 33,714 of SEQ ID NO:1.

90. (previously presented) The oligonucleotide probe of claim 89 which is 16 nucleotides.

91 - 99. (canceled)

100. (currently amended) A kit for the detection of FD1 and FD2 ~~mutation~~ mutations associated with Familial Dysautonomia in a sample from a human subject, said kit comprising

(1) an isolated oligonucleotide probe for the detection of the FD1 mutation selected from the group consisting of

(a) an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 34,201 of SEQ ID NO:1 and being suitable for the detection of ~~the FD mutation~~ the FD1 mutation at position 34,201 of SEQ ID NO:1;

(b) the complement of an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 34,201 of SEQ ID NO:1 and being suitable for the detection of ~~the FD mutation~~ the FD1 mutation at position 34,201 of SEQ ID NO:1;

(c) an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 34,201 of SEQ ID NO:1 except that the nucleotide ~~corresponding to~~ which is at the same position as position 34,201 of SEQ ID NO:1 is a cytosine and being suitable for the detection of ~~the FD mutation~~ the FD1 mutation at position 34,201 of SEQ ID NO:1;

(d) the complement of an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 34,201 of SEQ ID NO:1 except that the nucleotide ~~corresponding to~~ which is at the same position as position 34,201 of SEQ ID NO:1 in the complement is a guanine and being suitable for the detection of ~~the FD mutation~~ the FD1 mutation at position 34,201 of SEQ ID NO:1; and

(2) an isolated oligonucleotide probe for the detection of the FD2 mutation selected from the group consisting of

(e) an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 33,714 of SEQ ID NO:1 and being suitable for the detection of ~~the FD mutation~~ the FD2 mutation at position 33,714 of SEQ ID NO:1;

(f) the complement of an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 33,714 of SEQ ID NO:1 and being suitable for the detection of ~~the FD mutation~~ the FD2 mutation at position 33,714 of SEQ ID NO:1;

(g) an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 33,714 of SEQ ID NO:1 except that the nucleotide ~~corresponding to~~ which is at the same position as position 33,714 of SEQ ID NO:1 is a cytosine and being suitable for the detection of ~~the FD mutation~~ the FD2 mutation at position 33,714 of SEQ ID NO:1; and

(h) the complement of an isolated oligonucleotide probe consisting of at least 16 contiguous nucleotides of the portion of SEQ ID NO:1 from nucleotide 32,642 to nucleotide 36,846 which include position 33,714 of SEQ ID NO:1 except that the nucleotide ~~corresponding to~~ which is at the same position as position 33,714 of SEQ ID NO:1 in the complement is a guanine and being suitable for the detection of ~~the FD mutation~~ the FD2 mutation at position 33,714 of SEQ ID NO:1.

101. (currently amended) The kit of claim 100, wherein the isolated oligonucleotide probes ~~of claim 100 which is~~ are each 16 nucleotides.

102. (new) The kit of claim 100 further comprising isolated oligonucleotides for the detection of a genetic disease selected from the group consisting of Canavan's disease, Tay-Sachs disease, Goucher disease, cystic fibrosis, Fanconi anemia, and Bloom syndrome.